

Prostate Cancer in Vermont

March 2006

Background

In the United States and Vermont, prostate cancer is the most commonly diagnosed cancer in men. A man's risk of developing prostate cancer in his lifetime is one in six. In Vermont, prostate cancer is the third leading cause of death due to cancer, representing 10 percent of all cancer deaths in men.

Prostate cancer is a disease in which malignant cells form in the prostate, a gland in the male reproductive system, normally about the size of a walnut, which is located just below the bladder and in front of the rectum.

Vermont Facts, 1998-2002

- ❖ **Incidence:** Prostate cancer is the most common cancer diagnosed among men in Vermont. Each year approximately 467 prostate cancer cases are diagnosed in men.
- ❖ **Mortality:** Prostate cancer is the third leading cause of cancer death among men in Vermont. Each year, approximately 65 men die from prostate cancer.
- ❖ **Vermont vs. U.S.:** Prostate cancer incidence and mortality rates for Vermont men are not significantly different compared to U.S. white men.
- ❖ **Yearly Trends:** In the United States from 1998-2002, while the mortality rate of prostate cancer has decreased significantly, there has been no significant change in prostate cancer incidence. In Vermont, there has been no significant change in prostate cancer incidence or mortality during this time period.
- ❖ **Age:** Incidence of prostate cancer increase with age. In Vermont, approximately 62% of all prostate cases are diagnosed in men 65 and older.
- ❖ **County:** Prostate cancer incidence rates for men in Addison and Rutland County are significantly higher than the U.S. male white rate. The prostate cancer incidence rates for men in Caledonia, Chittenden, and Windham County are significantly lower than the U.S. male white rate.

Prostate Cancer Incidence Compared with Other Cancers

Table 1. The most commonly diagnosed cancers – Vermont, yearly averages 1998-2002.

Cancer Site	Cases (per year)	Percent (per year)
Prostate	467	29.3%
Lung	242	15.2%
Colon and Rectum	176	11.1%
Bladder	110	6.9%
Melanoma	91	5.7%
All Sites	1,593	100%

- ❖ During 1998-2002, an average of 1,593 men were diagnosed with invasive cancer each year in Vermont. Of those, an average of 467 men were diagnosed with prostate cancer per year.
- ❖ Prostate cancer was the most common cancer diagnosed in men in Vermont and in the United States.
- ❖ Prostate cancer accounted for roughly 29% of all cancers diagnosed in men in Vermont during 1998-2002.

Prostate Cancer Mortality Compared with Other Cancers

Table 2. The most common causes of cancer death – Vermont, yearly averages 1998-2002.

Cancer Site	Deaths (per year)	Percent (per year)
Lung	197	31.0%
Colon and Rectum	65	10.3%
Prostate	65	10.2%
Pancreas	35	5.5%
Non-Hodgkin Lymphoma	29	4.6%
All Sites	635	100%

- ❖ During 1998-2002, an average of 635 men died each year from cancer in Vermont. Of these, an average of 65 men died each year of prostate cancer.
- ❖ Between 1998-2002 prostate cancer was the third leading cause of cancer death closely following colon cancer for men in Vermont. Prostate cancer is the second leading cause of cancer death for men in the U.S.
- ❖ Prostate cancer accounted for roughly 10% of all cancer deaths in men in Vermont during 1998-2002.

Prostate Cancer in Vermont Compared to the U.S.

Table 3. Rates of prostate cancer – Vermont and United States, yearly averages, 1998-2002.

	Incidence (95% CI) per 100,000	Mortality (95% CI) per 100,000
VT Males	169.2 (162.3, 176.3)	29.5 (26.3, 33.0)
U.S. Males	173.5	27.8

All rates are age-adjusted to the 2000 U.S. standard population. The U.S. mortality rates are based on the Vital Statistics System of the United States Public Use database. U.S. rates are 1998-2002 white population mortality rates. The U.S. incidence rates are based on the SEER Cancer Incidence Public Use Database. U.S. SEER incidence rates are 1998-2002 white population rates.

- ❖ Between 1998 and 2002 there were no significant differences between the Vermont prostate cancer incidence rate and the U.S. male white rate.
- ❖ Between 1998 and 2002 there were no significant differences between the Vermont prostate cancer mortality rate and the U.S. male white rate.

Prostate Cancer Incidence in Vermont by County

Table 4. Rates of prostate cancer – Vermont by county, per 100,000, 1998-2002.

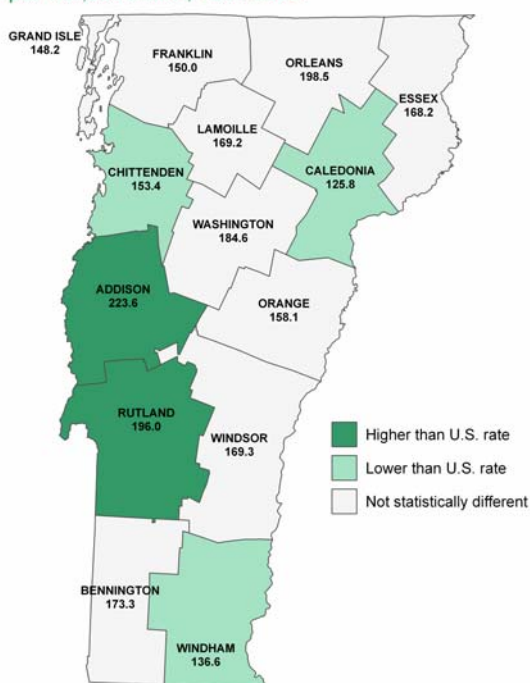
County	Incidence
Addison *	223.6
Bennington	173.3
Caledonia **	125.8
Chittenden **	153.4
Essex	168.2
Franklin	150.0
Grand Isle	148.2
Lamoille	169.2
Orange	158.1
Orleans	198.5
Rutland *	196.0
Washington	184.6
Windham **	136.6
Windsor	169.3

* Significantly higher than the U.S. rate.

** Significantly lower than the U.S. rate.

All rates are age-adjusted to the 2000 U.S. standard population.

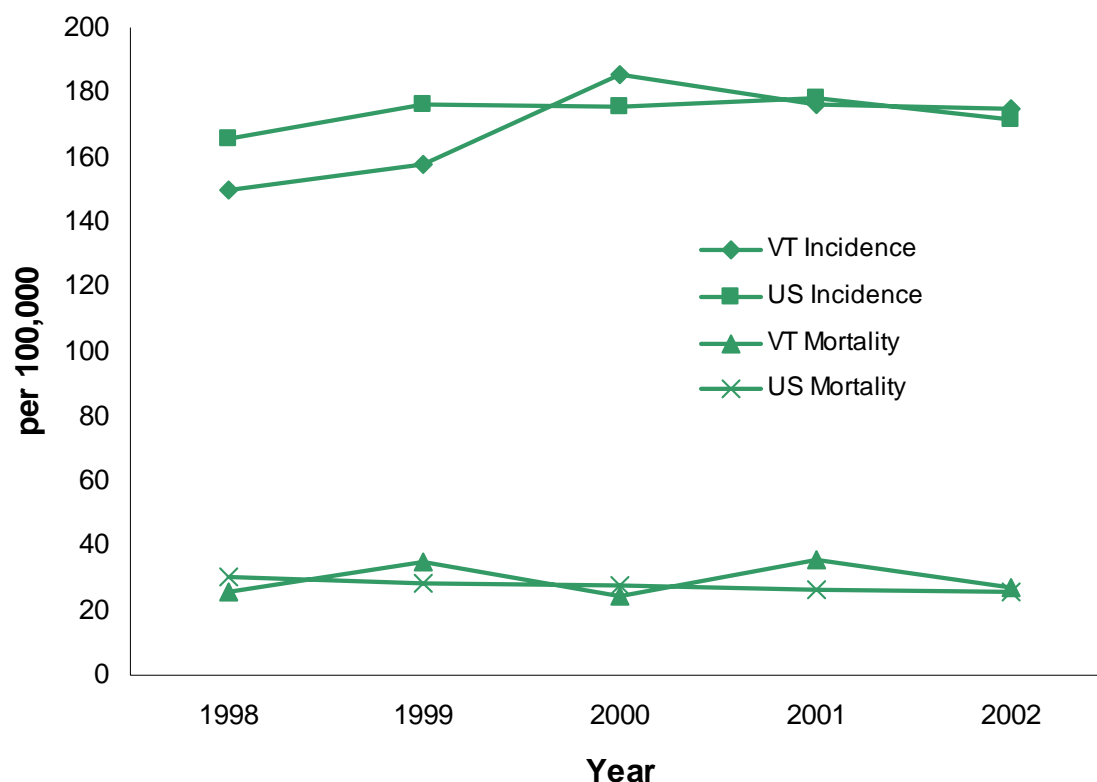
**Prostate incidence by county
per 100,000 males, 1998-2002**



- ❖ During 1998-2002, the prostate cancer incidence rates in Addison and Rutland Counties were significantly higher than the U.S. male white rate. During that time the incidence rates in Caledonia, Chittenden, and Windham Counties were significantly lower than the U.S. white rate. There were no other significant differences between Vermont county rates and U.S. rates.

Prostate Cancer Yearly Trends

Figure 1. Incidence and mortality rates of prostate cancer – Vermont and U.S., 1998-2002.



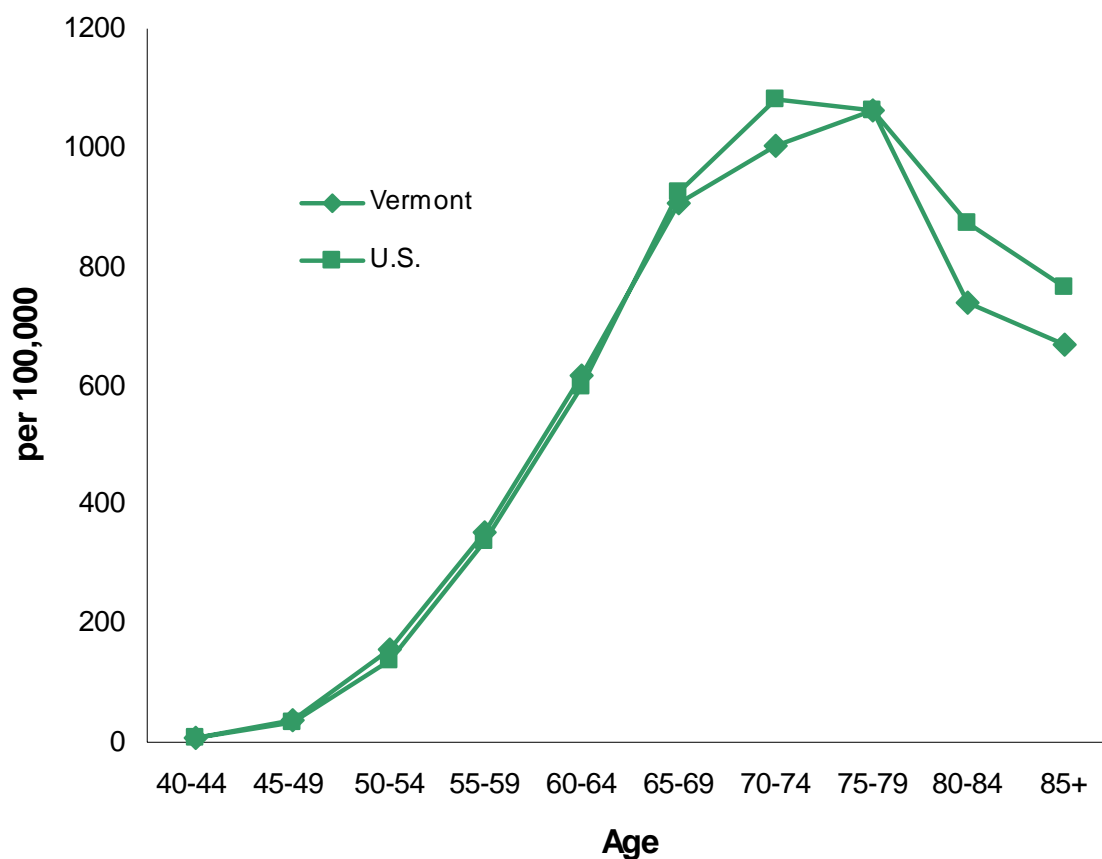
	1998	1999	2000	2001	2002
VT Incidence	150.0	157.6	185.8	176.3	174.8
U.S. Incidence	165.4	176.0	175.8	178.2	171.9
VT Mortality	25.9	34.9	24.2	35.5	27.2
U.S. Mortality	30.1	28.7	27.8	26.5	25.7

All rates are per 100,000 and are age-adjusted to the 2000 U.S. Standard population.

- ❖ From 1998 to 2002, there was no significant change in prostate cancer incidence or mortality in Vermont.
- ❖ From 1998 to 2002, there was no significant change in prostate cancer incidence in the U.S., although mortality significantly decreased.

Prostate Cancer Incidence and Age

Figure 2. Prostate cancer incidence rates by age – Vermont and U.S., 1998-2002.



Age Group	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Vermont	7.1	37.3	154.9	353.0	618.5	907.5	1001.8	1060.8	739.0	667.8
U.S.	7.2	33.8	137.2	337.2	598.8	925.3	1081.3	1063.1	874.6	763.9

All rates are age-adjusted to the 2000 U.S. standard population.

- ❖ The incidence of prostate cancer, as with many cancers, increases dramatically with age. Prostate cancer is most often found among men over the age of 50.
- ❖ During 1998-2002, Vermont men aged 75 to 79 had the highest age-specific incidence of prostate cancer, at a rate of 1060.8 per 100,000.
- ❖ During 1998-2002, men aged 80-84 had a significantly lower incidence of prostate cancer compared to the U.S.

Prostate Cancer Risk Factors

The causes of prostate cancer are not well understood, however, certain risk factors are linked to the disease.

- ❖ **Age:** The chance of getting prostate cancer goes up as a man gets older. Nationally, about two out of every three prostate cancers are diagnosed in men over the age of 65.
- ❖ **Race:** For unknown reasons, prostate cancer is more common among African-American men than among white men. Additionally, African-American men are twice as likely to die of the disease. Prostate cancer occurs less often in Asian men than in whites.
- ❖ **Nationality:** Prostate cancer is most common in North America and northwestern Europe. It is less common in Asia, Africa, Central and South America.
- ❖ **Family History:** Men with close family members (father or brother) who have had prostate cancer are more likely to develop it themselves, especially if their relatives were young when they got the disease.
- ❖ **Diet:** Men who eat a lot of red meat or high-fat dairy products seem to have a greater chance of getting prostate cancer.

Prostate Cancer Prevention and Screening

Some men with risk factors may never develop prostate cancer, while others without any known risk factors may develop the disease. There is still a significant amount of research being conducted to better understand risk factors associated with the development of prostate cancer and how it may be prevented. More studies are needed to determine if a low-fat diet with more fruits and vegetables helps prevent prostate cancer.

Medical experts disagree about whether regular screening for prostate cancer is recommended. However, they do agree that all men should receive all available information on the pros and cons of prostate cancer screening before making an informed decision.

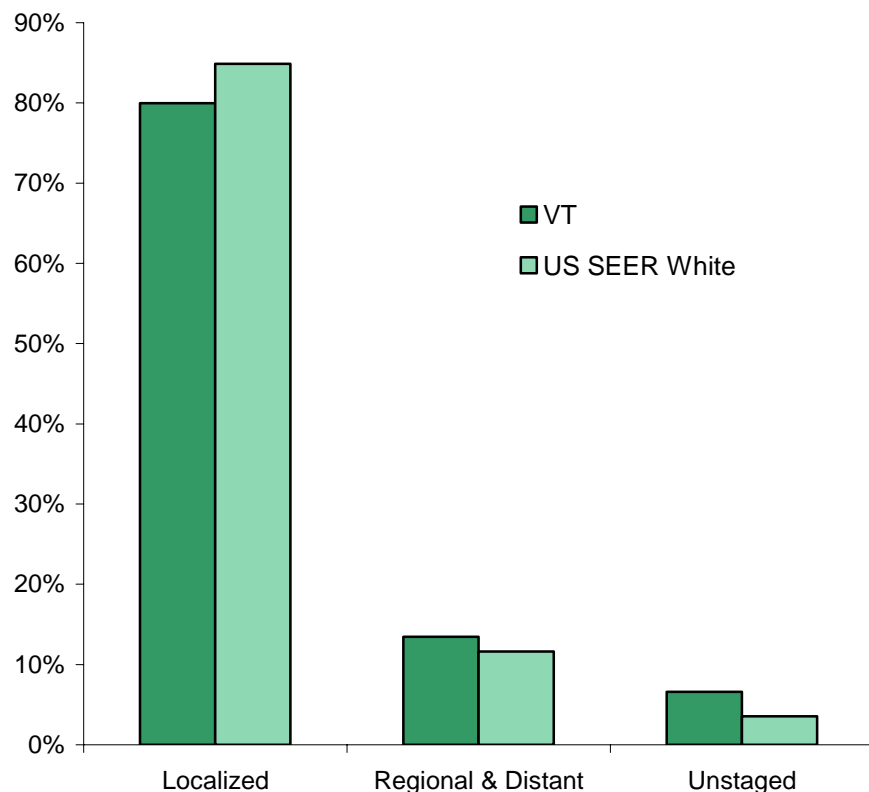
According to the Centers for Disease Control and Prevention, medical experts who encourage regular screening believe current scientific evidence shows that finding and treating prostate cancer early, when treatment might be more effective, may save lives. These experts recommend that all men with a life expectancy of at least 10 or more years should be offered the prostate specific antigen (PSA) test and a digital rectal exam (DRE) annually beginning at age 50. They also recommend offering earlier screening tests to black men, and men who have a father or brother with prostate cancer. A biopsy is the only procedure that can definitively diagnose prostate cancer and is performed when screening tests indicate.

Medical experts who do not recommend regular screening want convincing evidence that finding early-stage prostate cancer and treating it, saves lives. They believe that some of these cancers may never affect a man's health and treatment could cause temporary or long-lasting side effects.

There are no Healthy Vermonters 2010 objectives for prostate cancer. The national objective is to reduce prostate cancer deaths. Goal: 29 per 100,000 men

- ❖ **Vermont's prostate cancer mortality rate is 27.2 deaths per 100,000 men.**

Figure 3. Distribution of prostate cancer cases by stage at diagnosis*– Vermont and the United States, 1998-2002.



**Data only includes malignant, invasive, prostate cancer cases. Staging categories for regional and distant stages are combined due to coding changes that occurred with cases diagnosed 2000 and forward.*

- ❖ During 1998-2002, 80% of prostate cancers were diagnosed in Vermont at the early stage (localized). In the U.S., 85% of prostate cancers were diagnosed at the early stage and is significantly higher than Vermont.
- ❖ During 1998-2002, 13% of prostate cancers in Vermont were diagnosed in late stage (either regional or distant), which is similar to 12% diagnosed in the U.S.

Data Sources

Vermont Cancer Registry: The Vermont Cancer Registry is a central bank of information on all cancer cases diagnosed or treated in Vermont since January 1, 1994. The registry enables the state to collect information on new cases (incidence) of cancer. Previously, the state only kept records on deaths from cancer. The information maintained by the registry allows the Health Department to study cancer trends and improve cancer education and prevention efforts. Suggested Citation: Vermont Department of Health Cancer Registry, 1998-2002. The Vermont Cancer Registry can be contacted at 802-865-7749.

Vermont Vital Statistics: In Vermont, towns are required to file certified copies of death certificates with the Department of Health for all deaths occurring in their jurisdictions. The Health Department is responsible for maintaining the vital statistics system. Suggested Citation: VT Department of Health Vital Statistics System, 1998-2002.

Surveillance, Epidemiology, and End Results: The National Cancer Institute funds a network of Surveillance, Epidemiology and End Results (SEER) registries. The SEER Program currently collects and publishes cancer incidence and

survival data from 14 population-based cancer registries and three supplemental registries covering approximately 26 percent of the U.S. population. These rates are used to estimate the U.S. cancer incidence rates. U.S. incidence is based on the SEER 9 Registries white rates. Suggested Citation: Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Feuer EJ, Edwards BK (eds). SEER Cancer Statistics Review, 1975-2002, National Cancer Institute. Bethesda, MD, 2005.
http://www.seer.cancer.gov/csr/1975_2002

U.S. Vital Statistics: The U.S. Public Use Database Vital Statistical System maintains the U.S. mortality rates. Rates presented in this report are for the U.S. white population and were obtained using CDC Wonder. Suggested Citation: United States Department of Health and Human Services (U.S. DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Office of Analysis, Epidemiology, and Health Promotion (OAEHP), Compressed Mortality File (CMF) compiled from CMF 1968-1988, Series 20, No. 2A 2000, CMF 1989-1998, Series 20, No. 2E 2003 and CMF 1999-2002, Series 20, No. 2G 2004 on CDC WONDER On-line Database.

Technical Notes and Definitions

Age Adjustment: All rates in this document are age-adjusted to the 2000 U.S. standard population. This allows the comparison of rates among populations having different age distributions by standardizing the age-specific rates in each population to one standard population.

Incidence: Incidence refers to the number or rate of newly diagnosed cases of cancer. The incidence rate is calculated as the number of new cancers diagnosed in the state during one year divided by the number of residents in the state during the same year. The incidence data presented in this report were coded using the International Classification of Disease for Oncology (ICD-O) coding system. Prostate cancer cases were defined with ICD-O-3 code of C61.9 with the exception of histologies 9590-9989 (or equivalent for older data).

Cancer registration is a dynamic process, and additions, deletions, and updates are constantly made to the data. The incidence data reported at this time will be modified to some extent in future reports. Previously unreported cases will be added, and diagnosis date will be updated, as more information becomes available.

Mortality: Mortality refers to the number or rate of deaths from cancer. The mortality data presented here were coded using the International Classification of Diseases (ICD). From 1999 on, cancer mortality site groupings are defined by NCHS and based on ICD-10 classification. Cause of death before 1999 was coded according to ICD-9. Comparability ratios were applied to pre-1999 mortality rates to allow for continuity in trends across the ICD revisions.

Race: U.S. incidence and mortality rates for whites, rather than those for all races, are used for comparison because racial minority groups were estimated to make up 3.1 percent of the total Vermont population, compared with the total U.S. non-white population of 19.6 percent in 2004. Nationwide, whites have a higher risk compared to people of other races for female breast, melanoma, and bladder cancer incidence. Whites have a lower risk compared to other races for prostate, colorectal, and cervical cancer. The much smaller populations of Vermont residents of other races may have very different risks of these cancers.

Combining data over many years will be required to determine cancer rates.

Confidence Intervals: A confidence interval is a range of values within which the true rate is expected to fall. If the confidence intervals of two groups (such as males and females, or Vermont and the U.S.) overlap, then any difference between the two rates is not statistically significant. All rates in this report are calculated at a 95 percent confidence level.

Small Numbers: Rates are not presented in this report if the number of cases is fewer than 6.

Suggested Citation

Vermont Department of Health, Prostate Cancer in Vermont, 2006.

Acknowledgements

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Vermonters Taking Action Against Cancer (VTAAAC)

VTAAAC is a statewide partnership of more than 140 individuals, professionals and organizations working together to reduce the impact of cancer on all Vermonters. A comprehensive strategic plan addressing prevention, detection, treatment, survivorship needs, and palliative care related to Vermont's leading cancers is available at <http://healthvermont.gov> or call (802) 865-7706.